

ABSTRACT

The present invention relates to homogenous LCT-epoxy polymers with oligomers containing grafted nano-sized HTC-materials and methods for making the same. The homogenous LCT-epoxy polymers with oligomers containing grafted nano-sized HTC-materials comprise HTC-oligomer sub-structures evenly dispersed and essentially completely co-reacted with the LCT-epoxy sub-structures, where the HTC-oligomer sub-structures are organically bonded to the LCT-epoxy sub-structures. This produces homogenous LCT-epoxy polymers with oligomers containing grafted nano-sized HTC-materials that are substantially free of particle wetting and micro-void formation, with improved thermal conductivity properties without compromising on other desired structural integrities.